

REMARKS

Claims 1–20 are pending in the present application.

Claims 1–7 were previously withdrawn.

Claims 8, 16 and 19 were amended herein.

Reconsideration of the claims is respectfully requested.

35 U.S.C. § 112, First Paragraph (Written Description)

Claims 16–20 were rejected under 35 U.S.C. § 112, first paragraph as containing subject matter that was not described in the application as filed in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed. This rejection is respectfully traversed.

Claim 16 has been amended to delete the limitation objected to in the Office Action.

Therefore, the rejection of claims 16–20 under 35 U.S.C. § 112, first paragraph has been overcome.

35 U.S.C. § 112, Second Paragraph (Definiteness)

Claims 8–15 were rejected under 35 U.S.C. § 112, second paragraph as failing to particularly point out and distinctly claim the subject matter that the applicant regards as the invention. This rejection is respectfully traversed.

Claim 8 has been amended to eliminate the inconsistency identified in the Office Action.

Therefore, the rejection of claims 8–15 under 35 U.S.C. § 112, first paragraph has been overcome.

35 U.S.C. § 102 (Anticipation)

Claims 16–19 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,054,383 to *Suzuki et al.* This rejection is respectfully traversed.

A claim is anticipated only if each and every element is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the claim. MPEP § 2131 at p. 2100-76 (8th ed. rev. 5 August 2006).

Independent claim 16 recites that the tungsten fills a majority of a depth of the opening across a width of the opening. Such a feature is not found in the cited reference. *Suzuki et al* does not describe tungsten layer 8 as filling a majority of a depth of opening 5 across a width of opening 5.

Therefore, the rejection of claims 16–19 under 35 U.S.C. § 102 has been overcome.

35 U.S.C. § 103 (Obviousness)

Claims 8–15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,103,625 to *Marcyk et al* in view of *Suzuki et al.* This rejection is respectfully traversed.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142, p. 2100-125 (8th ed. rev. 5 August 2006). Absent such a *prima facie* case, the applicant is under no obligation to produce evidence of nonobviousness. *Id.*

To establish a *prima facie* case of obviousness, three basic criteria must be met: First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference

teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *Id.*

Independent claim 8 recites a conformal tungsten layer over the dielectric layer and within and filling any unfilled portions of openings within the dielectric layer, and an etch protective barrier layer over the tungsten layer and within the openings, where the etch protective barrier layer comprises a material for which removal by chemical mechanical polishing is primarily mechanical. Such a feature is not found in the cited references, taken alone or in combination. *Marcyk et al* teaches that conductive layer 206 may be tungsten, but also teaches that polish stop layer 208 may also be tungsten. *Marcyk et al* does not teach a polish stop layer specifically suitable for use with an underlying tungsten conductive layer 206. *Suzuki et al* teaches TiN as a protection layer 10 over a tungsten layer 8, but only as one possibility among Ti, Si, SiO₂, SiN_x and SiN_{1-x}O_x. Neither *Marcyk et al* nor *Suzuki et al* teaches a protective layer comprising a material for which removal by CMP is primarily mechanical.

Therefore, the rejection of claims 8–15 under 35 U.S.C. § 103 has been overcome.

If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *dvenglarik@munckbutrus.com*.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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